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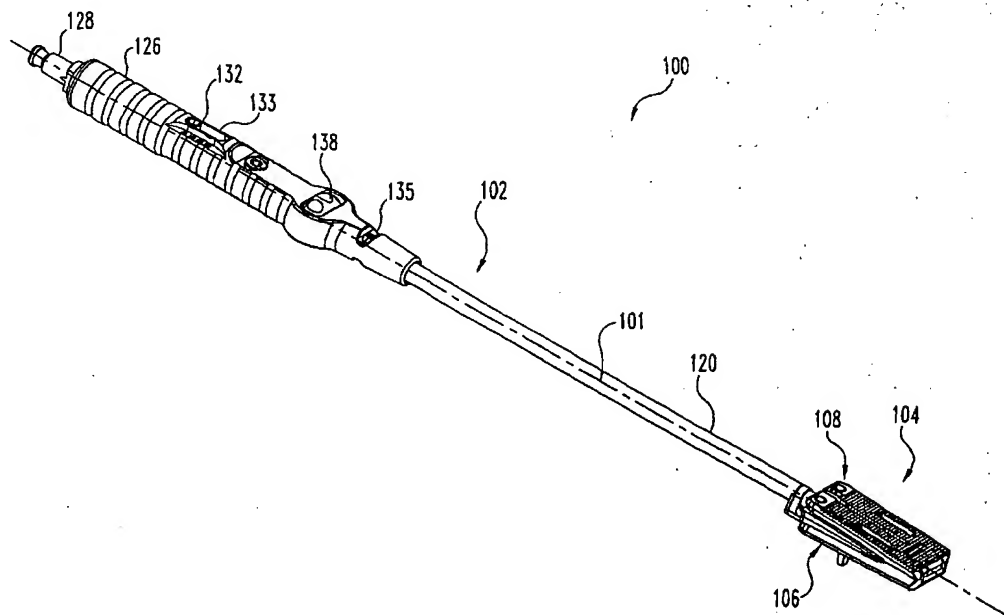
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[Continued on next page]

(54) Title: INSTRUMENTATION AND METHODS FOR PREPARATION OF AN INTERVERTEBRAL SPACE



(57) Abstract: An instrument (100) for separating adjacent vertebrae includes a handle assembly (102) and a distal portion (104) at a distal end of the handle assembly. The distal portion includes first and second members (106, 108) movable from an unexpanded configuration for insertion in the disc space toward an expanded configuration to separate the vertebrae. A cutting member of a cutting instrument (300, 400, 500) can be guided by the instrument to prepare the vertebrae for engagement with an implant.



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B A61F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 681 811 A (UNITED STATES SURGICAL CORP) 15 November 1995 (1995-11-15)	1-3, 6-14,21, 34,35, 67-75
Y	column 12, line 57 -column 14, line 42 figures 19-23	55-62
X	DE 295 20 928 U (WOLF GMBH RICHARD) 9 May 1996 (1996-05-09) page 4, line 7 -page 5, line 20 claim 1	1,2,6-8, 26,67-70
X	EP 1 153 582 A (DEPUY ACROMED INC) 14 November 2001 (2001-11-14)	1,26,27, 67,70
A	column 1, line 56 -column 2, line 41 -/--	9-13,20

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "&" document member of the same patent family

Date of the actual completion of the international search

4 March 2004

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 676 176 A (UNITED STATES SURGICAL CORP ;SLOTMAN GUS J (US); STEIN SHERMAN (US) 11 October 1995 (1995-10-11) column 4, line 34 -column 6, line 9 figures 1-6 ---	1-4,20, 26,67,70
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A	column 4, line 42 -column 5, line 39 ---	49-54
Y	US 4 697 586 A (GAZALE WILLIAM J) 6 October 1987 (1987-10-06) column 4, line 19 -column 6, line 3 ---	55-62
X	US 5 135 528 A (WINSTON FREDERICK) 4 August 1992 (1992-08-04) figure 2 ---	63
A	DE 200 04 812 U (VIERING JOERG ;KNOP CHRISTIAN (DE)) 28 September 2000 (2000-09-28) the whole document ---	1-62
A	US 2001/031967 A1 (NICHOLSON JAMES E ET AL) 18 October 2001 (2001-10-18) figures 14A,14B -----	63-66

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/14170

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-38, 67-71

An instrument for separating adjacent vertebrae, comprising first and second members being movable with respect to each other; a handle assembly; and an actuating member between the first and second member, being movable between two positions wherein the first and second members include an expanded/unexpanded configuration.

2. Claims: 39-48

An instrument for separating adjacent vertebrae, comprising first and second members being movable with respect to each other; a handle assembly; the handle assembly including a stop member being adjustable in the direction of the longitudinal axis of the handle, for limiting the insertion depth of the first and second members.

3. Claims: 49-54

An instrument for separating adjacent vertebrae, comprising first and second members being movable with respect to each other; a handle assembly; wherein a plurality of second members is provided which can be removably coupled with the first member, and the outer surface of the different second members form different angles with the outer surface of the first member.

4. Claims: 55-62

An instrument for separating adjacent vertebrae, comprising first and second members being movable with respect to each other; a handle assembly; and a cutting instrument movable along the first and/or second member.

5. Claims: 63-66

A cutting instrument for a vertebral body, comprising a handle, a shaft and a central keel blade.

6. Claims: 72-75

An instrument for separating adjacent vertebrae, comprising first and second members having different lateral widths and being movable with respect to each other; a handle assembly; and an actuating member between the first and second member,

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

being movable between two positions wherein the first and second members include an expanded/unexpanded configuration.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/14170

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